

## StrataGrid Geogrid

Geogrid and Direction (MD, CD)	Polymer (PET, HDPE, PP)	Aperture Size (inches)	$T_{ult}$ (lb/ft)	$T_{2\%}$ (lb/ft)	$T_{5\%}$ (lb/ft)	$J_{ave}$ (lb)	$J$ (m-N/deg)	RF <sub>CR</sub>			RF <sub>D</sub>
								3-yr	75-yr	100-yr	
								26280 hrs	657000 hrs	876000 hrs	
								4.419 62536	5.8175 6537	5.94250 4106	
SG 600 (MD)	PET	2.4 x 0.95	8700					1.43	1.54	1.55	1.30
<b>Borrow (<math>\phi = 30^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	RF <sub>ID</sub>	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 600 (MD)	1.1	1.57	2.20	2.22	5531	3951	3925	0.8	0.462	0.8	24.79
<b>Fine Aggregate (<math>\phi = 34^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	RF <sub>ID</sub>	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 600 (MD)	1.15	1.64	2.30	2.32	5290	3779	3754	0.8	0.5396	0.8	28.35
<b>Coarse Aggregate (<math>\phi = 38^\circ</math>)</b>											
Geogrid and Direction (MD, CD)	RF <sub>ID</sub>	RF			$T_{al}$ (lb/ft)			$C_i$	F*	$C_{ds}$	$\rho$ (deg)
		3-yr	75-yr	100-yr	3-yr	75-yr	100-yr				
SG 600 (MD)	1.35	1.93	2.70	2.72	4507	3219	3198	0.8	0.6250	0.8	32.01

Where,

- $T_{ult}$  = wide width tensile strength @ ultimate (lb/ft),
- $T_{2\%}$  = wide width tensile strength @ 2% strain (lb/ft),
- $T_{5\%}$  = wide width tensile strength @ 5% strain (lb/ft),
- $J_{ave}$  = average junction strength per rib (lb),
- $J$  = aperture stability modulus (m-N/deg),
- RF<sub>CR</sub> = creep reduction factor for 3, 75 and 100-year design life,
- RF<sub>D</sub> = durability (degradation) reduction factor,
- RF<sub>ID</sub> = installation damage reduction factor,
- RF = RF<sub>ID</sub> × RF<sub>CR</sub> × RF<sub>D</sub> for 3, 75 and 100-year design life,
- $T_{al}$  = short-term design strength for 3-year design life (lb/ft) =  $T_{ult} \left[ \frac{1}{1 + \frac{t}{26280}} \right]$  (RF<sub>ID</sub> × RF<sub>CR</sub>) or LTDS for 75 and 100-year design life (lb/ft) =  $T_{ult} \left[ \frac{1}{1 + \frac{t}{657000}} \right]$  RF,
- $C_i$  = coefficient of interaction,
- F\* = pullout resistance factor =  $C_i \tan \phi$ ,
- $C_{ds}$  = coefficient of direct sliding and
- $\tan \rho$  = soil-geogrid friction angle (deg) =  $C_{ds} \tan \phi$ .